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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 821,554	03 29 2001	Weng Chang	67,200-367	5869

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EXAMINER

UMEZ ERONINI, LYNETTE T

ART UNIT PAPER NUMBER

1765

DATE MAILED: 06 23 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/821,554

Applicant(s)

CHANG ET AL.

Examiner

Lynette T Umez-Eronini

Art Unit

1765

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 June 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY [check either a) or b)]**

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

- 1 ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
- 2 ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

- 3 ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
- 4 ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
- 5 ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
- 6 ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
- 7 ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: none

Claim(s) objected to: none

Claim(s) rejected: 1-15

Claim(s) withdrawn from consideration: none

- 8 ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
- 9 ☐ Note the attached Information Disclosure Statement(s) (PTO 1449) Paper No(s) \_\_\_\_\_

Continuation of 5. does NOT place the application in condition for allowance because

Applicant traverses the 102(e) rejection of claims 1, 3, 4, 7, 8, 10, 11, 14, and 15 as being anticipated by Semekh (US 6,292,334). Applicant argues that Somekh's first dielectric layer 10 is a blanket first dielectric layer within a damascene structure, rather than a patterned first dielectric layer within a damascene structure, as disclosed and claimed by applicant within claim 1, amended claim 4, claim 8, and amended claim 11 and Somekh's blanket first dielectric layer 10 will inherently not provide an intrinsic etch stop with respect to Somekh's blanket second dielectric layer 18 as required within claim 1, amended claim 4, claim 8, and amended claim 11.

Applicant's argument is acknowledged but is unpersuasive because Somekh also teaches,

"A method of forming a dual damascene structure, comprising:

depositing a first dielectric film on a substrate;

depositing a low k etch stop (same as applicant's first dielectric layer) on the first dielectric film;

depositing a first photoresist layer on the low k dielectric etch stop;

patterning the first photoresist layer to define one or more vertical interconnect openings (same as applicant's via);

pattern etching the low k dielectric etch stop to define the one or more vertical interconnect openings and expose the first dielectric film. The above reads on forming upon the substrate a patterned first dielectric layer formed of a first dielectric material having a first dielectric constant of less than about 4.0, the patterned first dielectric layer defining a via.

stripping the first photoresist layer with an oxygen plasma;

depositing a second dielectric film (on the low k dielectric etch stop and the exposed first dielectric film);


depositing a second photoresist layer on the second dielectric film;

patterning the second photoresist layer to define one or more horizontal interconnects (same as applicant's trench);

pattern etching the second dielectric film to define the one or more horizontal interconnects and continuing to etch the first dielectric film to define the one or more vertical interconnects; . . .

wherein at least one of the first and the second dielectric layers are comprised of fluorine doped silicon lass and the low k etch stop is comprised of alpha-FC" (claim 8).

Applicant also traverses the rejection of independent claims 2, 5, 6, 9, 12, and 13 under 35 USC § 103(a) as being unpatentable over Somekh in view of Yu et al. (US 6,004,883). In light of Applicant's arguments above, Applicant requests the said claims be withdrawn. Applicant's arguments are moot based the Examiner's response to argument as stated above.

  
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